

Appl. No.: 09/715,867
Amdt. Dated: March 3, 2004
Reply to Office Action of: December 4, 2003

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (cancelled)
2. (previously presented) The modulator of Claim 16 wherein the solid state electro-optic material comprises a ceramic material.
3. (previously presented) The modulator of Claim 16 wherein the solid state electro-optic material comprises PLZT.
4. (cancelled)
5. (previously presented) The modulator of Claim 16 wherein the electro-optic material
comprises a thin film layer having a thickness of 2000 nm or less.
6. (previously presented) The modulator of Claim 16 wherein the electro-optic material
comprises a plurality of layers.
7. (previously presented) The modulator of Claim 16 wherein each electrode
comprises
an electrically conductive layer that contacts a dielectric layer.
8. (previously presented) The modulator of Claim 16 wherein the semiconductor
substrate comprises a CMOS integrated circuit.

Appl. No.: 09/715,867
Amdt. Dated: March 3, 2004
Reply to Office Action of: December 4, 2003

9. (previously presented) The modulator of Claim 16 further comprising a light source
and an optical coupler.
10. (previously presented) The modulator of Claim 16 further comprising a memory circuit co-located with each pixel.
11. (previously presented) The modulator of Claim 16 wherein each pixel circuit comprises a random access memory.
12. (original) The modulator of Claim 6 wherein a first electro-optic layer comprises a first electro-optic material and additional layers comprise a second electro-optic material.
13. (previously presented) The modulator of Claim 12 wherein the first layer comprises PLZT.
14. (original) The modulator of Claim 12 wherein the additional layers comprise PLZT.
15. (cancelled)
16. (currently amended) A spatial light modulator comprising:
an array of pixels formed on a semiconductor substrate, each pixel including a solid state electro-optic material positioned between a first electrode and a second electrode;
a first layer of dielectric material forming a first mirror underneath the electro-optic material and a second layer of dielectric material forming a second mirror above the electro-optic material, the first mirror and second mirror forming a cavity; and

Appl. No.: 09/715,867
Amdt. Dated: March 3, 2004
Reply to Office Action of: December 4, 2003

an array of pixel circuits formed with the semiconductor substrate, each pixel being connected to a pixel circuit, wherein the pixel circuits comprise an array of transistors formed on a silicon substrate.

17. (original) The modulator of Claim 16 wherein the first and second layers of dielectric material each comprise a stack of dielectric thin films.
18. (previously presented) The modulator of Claim 16 wherein the first and second electrodes comprise an optically transmissive conductive material.
19. (previously presented) The modulator of Claim 16 further comprising a copper interconnect extending from each pixel mesa along a mesa sidewall to a circuit contact of a pixel circuit.
- 20 - 40. (cancelled)
41. (previously presented) The modulator of Claim 16 wherein each pixel is connected to a respective pixel circuit from among the array of pixel circuits.
42. (previously presented) The modulator of Claim 16 used as a Fabry-Perot filter.